

Claims

1. Method for coating a substrates (1) having at least one hole (4),
5 wherein, in a first step, the hole (4), of which there is at least one, is covered by a plug (16),
in a further step, at least one layer (13) is applied to a surface (3) of the substrate (1) and
a low-temperature coating process being used as the method
10 of applying the layer (13),
in a further step, irradiation of a surface (15) of the layer (13), of which there is at least one, taking place so as to provide better adhesion and homogenization of particles in the near-surface region of the layer (13).
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2. Method according to Claim 1, characterized in that the substrate (1) is a turbine blade.
3. Method according to Claim 1, characterized in that during
20 irradiation a region below the surface (15) of the layer (13) is at least partially fused.
4. Method according to Claim 1, characterized in that an
electrochemical method for depositing layers is used as the
25 low-temperature coating process.

5. Method according to Claim 1, characterized in that the temperature for the low-temperature coating process is below 250°C, specifically below 100°C.
- 5 6. Method according to Claim 1, characterized in that irradiation of the surface (15) is performed using pulsed electron irradiation.
7. Method according to Claim 1, characterized in that
10 irradiation of the surface (15) is performed using a laser treatment.
8. Method according to Claim 1, characterized in that during or
15 at the end of irradiation of the surface (15), the plug (16) is removed from the near-surface region of the hole (4).
9. Method according to Claim 8, characterized in that the plug (16) is removed by evaporation.
- 20 10. Method according to Claim 1, characterized in that the layer (13) is a ceramic, specifically a ceramic heat insulating layer, or a metal, specifically a MCrAlY coating (M= Fe, Co, Ni).
11. Method according to Claim 1, characterized in that the hole
25 (4), of which there is at least one, is a film cooling hole or

an impingement cooling hole.

12. Method according to Claim 1 characterized in that the plug (16) is of a wax-like material.